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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/934,000	08/21/2001	Sascha Nick	212423	7712

23626 7590 08/23/2005

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EXAMINER

BURGESS, BARBARA N

ART UNIT PAPER NUMBER

2157

DATE MAILED: 08/23/2005

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

09/934,000

Applicant(s)

NICK, SASCHA

Examiner

Barbara N. Burgess

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 02 June 2005.
2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-19 is/are pending in the application.
4a) Of the above claim(s) 7-19 is/are withdrawn from consideration.
5) ☐ Claim(s) _____ is/are allowed.
6) ☒ Claim(s) 1-6 is/are rejected.
7) ☐ Claim(s) _____ is/are objected to.
8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08)
Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____.
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____

DETAILED ACTION

This Office Action is in response to Election/Restriction Requirement filed June 2, 2005.

Group I, consisting of claims 1-6, has been elected for examination by Applicant.

Claims 7-19 have been cancelled due to Non-election.

Claim Rejections - 35 USC § 103

1. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

2. Claims 1-6 are rejected under 35 U.S.C. 103(a) as being unpatentable over Almstead et al. (hereinafter "Almstead", US Patent 6,499,148 B1) in view of Ghanime (US Patent 6,591,296 B1).

As per claim 1, Almstead discloses a method for remotely monitoring and diagnosing operations of a machine, the method comprising:

- Detecting signals of one or more of the machine's operating and condition parameters (column 3, lines 6-8, column 4, lines 22-30, column 5, lines 45-49);
- Comparing the detected signals to a signal model maintained locally with respect to the machine's location and identifying any anomalies in the detected signals compared to the signal model (column 3, lines 10-13, column 5, lines 52-58, column 7, lines 41-48);

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- Transmitting information describing each anomaly to a location remote from the machine (column 3, lines 27-32, column 5, lines 34-35, column 7, lines 1-5, 11-15);
- Diagnosing at the remote location the information describing the anomaly, where the diagnosis includes an initial analysis of the information by diagnostic tools maintained at the remote location, a subsequent analysis of the information by diagnostic tools maintained elsewhere if the initial analysis fails to provide a diagnosis (column 8, lines 55-60, column 14, lines 40-45);
- Reporting the diagnosis of the anomaly to a location capable of attending to repair of the machine (column 8, lines 58-65, column 14, lines 43-45).

Almstead does not explicitly disclose:

- A final analysis by a team of humans aided by a collaborative environment if the initial and subsequent analyses fails to provide a diagnosis.

However, in an analogous art, Ghanime discloses an operator receiving an email with machinery fault information. This information will assist the operator in making a diagnosis. The operator communicates with onsite maintenance personnel to diagnose the error and fix the machinery (column 4, lines 45-67, column 5, lines 1-6).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate Ghanime's final analysis by a team of humans in Almstead's method in order to fix the faulted machine.

As per claim 2, Almstead discloses the method for remotely monitoring and diagnosing operations of a machine as set forth in claim 1 wherein the step of detecting signals of

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machine operating and condition parameters includes continuously monitoring at least one of the operating parameters and the condition parameters (column 4, lines 22-30).

As per claim 3, Almstead discloses the method for remotely monitoring and diagnosing operations of a machine as set forth in claim 1 wherein the signal model is a statistical model based on an initial collection of the detected signals (column 14, lines 23-36).

As per claim 4, Almstead further discloses the method for remotely monitoring and diagnosing operations of a machine as set forth in claim 1 wherein the detected signals are derived from a plurality of sensors, the method including the steps of:

- Identifying a failed sensor (column 14, lines 37-40);
- Regenerating the signal model based on remaining sensors (column 10);
- Monitoring the machine based on the remaining sensors and the signal model until the failed sensor is repaired or replaced (columns 11 and 12).

As per claim 5, Almstead discloses the method for remotely monitoring and diagnosing operations of a machine as set forth in claim 1 wherein the detected signals are derived from a plurality of sensors, the method including the step of generating a sensor replacement signal if the identified anomaly is based on a detected signal from a single sensor such that the replacement signal is substituted into the detected signals as a replacement for the detected signal from the single sensor and the step of comparing

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includes the step of comparing the detected signals containing the replacement signal to the signal model (column 7, lines 41-50).

As per claim 6, Almstead discloses the method for remotely monitoring and diagnosing operations of a machine as set forth in claim 1.

Almstead does not explicitly disclose:

- Including the step of adding the diagnosis to the diagnostic tools maintained at the remote location if the diagnosis is provided by one of the diagnostic tools maintained elsewhere and the team of humans.

However, in an analogous art, Ghanime discloses an operator receiving an email with machinery fault information. This information will assist the operator in making a diagnosis. The operator communicates with onsite maintenance personnel to diagnose the error and fix the machinery (column 4, lines 45-67, column 5, lines 1-6).

Therefore, one of ordinary skill in the art at the time the invention was made would have found it obvious to implement or incorporate Ghanime's final analysis by a team of humans in Almstead's method in order to fix the faulted machine.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Barbara N. Burgess whose telephone number is (571) 272-3996. The examiner can normally be reached on M-F (8:00am-4:00pm).

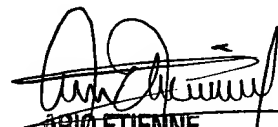
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If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Ario Etienne can be reached on (571) 272-4001. The fax phone number for the organization where this application or proceeding is assigned is 703-872-9306.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free).

Barbara N Burgess
Examiner
Art Unit 2157

August 20, 2005


ARIO ETIENNE
SUPERVISORY PATENT EXAMINER
TECHNOLOGY CENTER 2100